

A RESOLUTION BY

CITY UTILITIES COMMITTEE

03-*R*-2110

A RESOLUTION AUTHORIZING THE MAYOR OR DESIGNEE TO ISSUE A NOTICE TO PROCEED WITH JORDAN, JONES & GOULDING, INC./ENGINEERING DESIGN TECHNOLOGIES, INC., A JOINT VENTURE, FOR FC-6710-96D, ANNUAL CONTRACT FOR ARCHITECTURAL AND ENGINEERING SERVICES FOR THE FLINT RIVER TRANSMISSION MAIN REPLACEMENT – PHASE I ON BEHALF OF THE DEPARTMENT OF WATERSHED MANAGEMENT IN AN AMOUNT NOT TO EXCEED FIVE HUNDRED TWENTY-THREE THOUSAND FIVE HUNDRED TWENTY-TWO DOLLARS (\$523,522.00). ALL CONTRACTED WORK SHALL BE CHARGED TO AND PAID FROM THE FOLLOWING FUND ACCOUNT AND CENTER NUMBER: 2J26 524001 Q34I18079999.

WHEREAS, the City of Atlanta, (the “City”) did enter into FC-6710-96D Annual Contract for Architectural and Engineering Services; and

WHEREAS, the Department of Watershed Management requires architectural and engineering services for the Flint River Pump Station Transmission Main Replacement – Phase I in an amount not to exceed Five Hundred Twenty-Three Thousand Five Hundred Twenty-Two Dollars (\$523,522.00); and

WHEREAS, the Commissioner of the Department of Watershed Management and the Chief Procurement Officer of the Department of Procurement have recommended that Jordan, Jones and Goulding, Inc./Engineering Design Technologies, Inc., a Joint Venture, to provide design, construction administration services, evaluation of non-destructive testing methodologies, and engineering services to support a pipe bursting demonstration project for a portion of the Flint River Transmission Main Replacement.

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF ATLANTA, GEORGIA, that the Mayor be and is hereby authorized to approve a notice to proceed with Jordan, Jones and Goulding, Inc./Engineering Design Technologies, Inc., a Joint Venture, for FC-6710-96D, Annual Contract for Architectural and Engineering Services in an amount not to exceed Five Hundred Twenty-Three Thousand Five Hundred Twenty-Two Dollars (\$523,522.00).

BE IT FURTHER RESOLVED, that the Chief Procurement Officer be and is hereby directed to prepare an appropriate contractual agreement for execution by the Mayor to be approved by the City Attorney as to form.

BE IT FURTHER RESOLVED, that this notice to proceed should not become binding on the City, and the City shall incur no liability upon same until such contract has been executed by the Mayor and delivered to the contracting party.

BE IT FINALLY RESOLVED, that all services for said notice to proceed shall be charged to and paid from fund account and center number: 2J26 524001 Q34I18079999.

(CEZ) (11/10/03)

LEGISLATIVE SUMMARY

TO: CITY UTILITIES COMMITTEE

CAPTION

A RESOLUTION AUTHORIZING THE MAYOR OR DESIGNEE TO ISSUE A NOTICE TO PROCEED WITH JORDAN, JONES & GOULDING, INC./ENGINEERING DESIGN TECHNOLOGIES, INC., A JOINT VENTURE, FOR FC-6710-96D, ANNUAL CONTRACT FOR ARCHITECTURAL AND ENGINEERING SERVICES FOR THE FLINT RIVER TRANSMISSION MAIN REPLACEMENT – PHASE I ON BEHALF OF THE DEPARTMENT OF WATERSHED MANAGEMENT IN AN AMOUNT NOT TO EXCEED FIVE HUNDRED TWENTY-THREE THOUSAND FIVE HUNDRED TWENTY-TWO DOLLARS (\$523,522.00). ALL CONTRACTED WORK SHALL BE CHARGED TO AND PAID FROM THE FOLLOWING FUND ACCOUNT AND CENTER NUMBER: 2J26 524001 Q34I18079999.

Council Meeting Date:	December 1, 2003
Legislation Title:	Notice to Proceed for FC-6710-96D, Annual Contract for Architectural and Engineering Services for engineering services for the Flint River Transmission Main Replacement Project – Phase I.
Requesting Dept.:	Department of Watershed Management
Background:	To provide design, construction administration services, evaluation of non-destructive testing methodologies, and engineering services to support a pipe bursting demonstration project for a portion of the Flint River Transmission Main Replacement.
Fund Account Center:	2J26 524001 Q34I18079999
Prepared By:	Cynthia E. Zachery
Contact Number:	(404) 330-6057



CITY OF ATLANTA

SHIRLEY FRANKLIN
MAYOR

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DEPARTMENT OF
WATERSHED MANAGEMENT
JACK E. RAVAN
COMMISSIONER

MEMORANDUM

TO: Adam L. Smith, Chief Procurement Officer
Department of Procurement

FROM: Sharon Hillery Owen, *[Signature]*
Contract Administration
Department of Watershed Management

RE: **FLINT RIVER PUMP STATION TRANSMISSION MAIN
REPLACEMENT PHASE 1
Task Order for FC-6710-96-D**

DATE: November 7, 2003

The Department of Watershed Management requests assistance from the Department of Procurement to prepare the proper legislation to proceed with securing engineering services for the above referenced proposal. This would be a new task under the existing JJ&G Annual A/E contract.

Attached, please find a Scope of Work, requisition, fee and account information.

Should you require any further information, please feel free to call me at 6761.

Thank you in advance for your cooperation in this matter

SHO/ego

cc: John Reinhard Lance Clark, Robert Hunter, Bob King, Sylvester Richards, Pati McMahon, Keith Brooks, Yolanda McCrory



A Joint Venture

6801 Governors Lake Parkway • Norcross, Georgia 30071
T (770) 455.8555 • F (770) 455.7391

September 4, 2003

Mr. John D. Reinhard, P.E.
Chief Civil Engineer
Wastewater Services
City of Atlanta
2440 Bolton Road, NW
Atlanta, Georgia 30318

By E-mail & Courier

RE: Flint River Transmission Main Replacement Phase 1
Scope of Work and Fee Proposal (Revision No. 4)

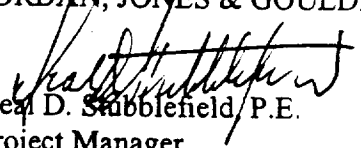
Dear Mr. Reinhard:

Jordan, Jones & Goulding / Engineering Design Technologies (JJG/EDT) submits this revised scope of work and fee for the Flint River Transmission Main Replacement Phase I following the Request for Proposal (RFP) issued by you on August 26, 2003. This revised scope of work (includes design, construction administration services, evaluation of non-destructive testing methodologies, and engineering services to support a pipe bursting demonstration project for a portion of the Flint River Transmission Main.) Also included as an appendix is a copy of our earlier Technical Memorandum on the replacement of the transmission main, which is a detailed description with cost approximations. Our fee proposal includes a billing 5% discount for all direct labor and no mark-up on expenses based on our currently approved blanket agreement (FC-6710-96D) contract rates with the City.

Please advise any questions or comments. Thank you.

Sincerely,

JORDAN, JONES & GOULDING, INC.


Neal D. Stubblefield, P.E.
Project Manager

NDS:pjw
Enclosures

cc: Wayne Haynie, P.E. – Vice President, JJG

Mr. John D. Reinhard, P.E.

September 4, 2003

Page 2

Fred Fatemi, P.E. – Chairman, EDT

Tommy Miller, P.E. - JJG

Bill Young, P.E. - JJG

Wendy Beal – JJG

James Thomson – Jason Consultants International

City of Atlanta
Flint River Pump Station Transmission Main Replacement –
Phase 1
Scope of Work
September 4, 2003

Project Background & Objectives

In a Technical Memorandum (TM) dated February 28, 2003; Jordan, Jones & Goulding, Inc. (JJG) provided recommendations for rehabilitation of the Flint River Pump Station Transmission Main. Based on these recommendations, The City of Atlanta (COA) Department of Watershed Management has asked for a proposal to design improvements that will address the current and future capacity requirements as well as correct potential problem areas of the transmission main.

The existing Flint River Transmission Main was constructed in 1983 with cement lined 24-inch diameter ductile iron pipe (DIP) to convey flows from the abandoned Flint River Water Pollution Control Plant (WPCP) to the South River WPCP via the Flint River Pump Station. The transmission main is approximately 30,000 linear feet (LF) in total length, with approximately half being a force main and the remainder being a gravity main. A separate analysis was performed to identify lengths of pipe where the greatest potential for internal corrosion was expected to occur due to continuous exposure of hydrogen sulfide gases. Additionally, an analysis was conducted comparing replacement with polyethylene lined DIP to pipe bursting; pipe bursting at this diameter with DIP is relatively new and about 9% more costly in this application. This project will focus on replacement of these areas, with the primary focus being on public safety rather than capacity.

General Scope

Segments of the transmission main to be replaced are as follows; refer to 2/28/03 Flint River Force Main Rehabilitation TM (Appendix A) for a detailed description and cost approximations:

- Segment 1, as identified in the above referenced TM, from the west side of Central Avenue, CSX Railroad and Henry Ford Avenue to Browns Mill Road / Humphries Drive Intersection – approximately 8,100 LF.
- Segment 2, as identified in the above referenced TM, from Browns Mill Road / Humphries Drive Intersection to School Drive / Jonesboro Road Intersection – approximately 3,000 LF.

- Approximately 700 LF from the School Drive/Jonesboro Road Intersection to the first gravity drop manhole on Jonesboro Road.

The estimated project cost of replacing this 12,000 LF portion is \$7.7 million. Estimated design schedule is estimated at 6 – 8 months, depending on client and regulatory reviews and approvals, plus a procurement period of 2 months. The City intends to use a contractor approved to do this work under a blanket agreement with its Purchasing Department.

JJG/EDT was given an RFP by the City on 8/26/03 for the design, construction administration, evaluation of non-destructive testing (NDT) for pipe thickness measurements, and engineering services to support a pipe bursting demonstration project for a specified section, all activities for these 3 segments (to be known collectively as Phase 1) are grouped into the following tasks for budgeting and project management purposes:

Task A – Detailed Design of Phase 1 Transmission Main Replacement

Task B – Construction Services for Partial Phase 1 Transmission Main Replacement

Task C – Evaluate NDT Pipe Thickness Measurement Technologies

Task D – Engineering Support Services for Pipe Bursting Demonstration Project

Start-up and operation and maintenance (O&M) services, if requested, will be covered in a separate Scope of Work.

Project Management

Project management of this effort will consist of the following activities:

1. Manage day-to-day activities of the project team, interface and coordinate with City personnel.
2. Issue project management plan with project team members and City points of contact identified.
3. Hold project kick off meeting with JJG/EDT project team and City representatives.
4. Schedule tasks including field visits to sites.
5. Schedule and conduct weekly teleconference and bi-weekly progress meetings and other meetings as required.
6. Maintain project files and data log of materials provided by the City.
7. Produce and distribute draft and final reports and review with the City.

8. Report to City and JJG/EDT management on project status including changes in scope, schedule and fee budget.
9. Issue monthly progress report to the City to document status of tasks, planned action items, schedule update, financial status, consultant participation and engineering and construction cost changes.

Project Deliverables

The following deliverables and services are to be produced:

1. **Task A - Detailed Design of Phase 1 Transmission Main Replacement:**
 - a. Provide preliminary and detailed engineering services to replace the 24" ductile iron pipe from the west side of the Central Ave CSX railroad tract (STA 156) to just past the first Jonesboro MH (STA 38) with a 30" lined ductile iron pipe. Work also involves designing an approximate 20' long replacement section downstream of STA 8 where a temporary concrete collar was previously added to repair corrosion damage.
 - b. The Phase I replacement project will be broken up into smaller tasks using a construction contractor established on a blanket contract. JJG/EDT assumes three separate construction segments to price his services. JJG/EDT will work closely with the construction contractor to establish the scope of each phase and fast-track design and construction of the first phase. The remaining tasks will be designed but the City will use the future blanket-engineering contract to perform the construction services.
 - c. An allowance of 10% of the Phase 1 design fee is provided to handle design services for emergency repairs determined from the pipeline evaluation phase. City will secure additional funding or contract the work out to a different party if emergencies exceed this amount. An allowance of \$35,000 has been assigned for this activity.
 - d. Prepare a preliminary (at 30% design submission) and final (at 100%) cost estimates.
 - e. Prepare 30%, 90% and 100% design packages for submission and review by the City
 - f. Design documents shall include drawings and specifications for the Flint River Phase 1 Transmission Main Replacement. Front-end (Division 0 and 1 of CSI format) will be City's standard to be furnished on JJG/EDT on electronic media in the latest version of Microsoft Word.

- g. Review and edit City's technical specifications for polyethylene-lined ductile iron pipe (DIP) and associated fittings for procurement by City's annual blanket piping contractor.
- h. Drawings will be provided using JJG/EDT standard format in AutoCAD 2000i, on a standard sheet size of 22" x 34". Technical specifications will be City of Atlanta CSI three-part format in the latest version of Microsoft Word modified for project requirements. The City will provide their standard Division 0 and 1 front-end documents. All City documents will be provided to JJG/EDT electronically in the latest version of Microsoft Word.

2. Task B – Construction Services for Partial Phase 1 Transmission Main Replacement:

- a. It is assumed that the partial phase 1 construction services will cover no more than approximately 3,500 LF of pipe replacement based on the availability of annual contractor unit pricing for an approximate \$2 million procurement. This pipe replacement will be exclusive of the 500 LF replacement to be accomplished by pipe bursting as described in Task D.
- b. Provide engineering support to the City to secure all federal, state and local permits for the construction work. All permit fees will be paid for directly by the City. Permits anticipated are for Georgia DOT ROW encroachment and City building permits.
- c. Conduct pre-construction conference.
- d. Attend weekly construction progress meetings.
- e. Review of contractor's submittals.
- f. Review and recommendation of contractor's payment applications.
- g. Respond to Requests for Information (RFIs).
- h. Periodic field visits – assume 8 hrs. total per week. The City will provide an inspector for daily visits.
- i. Final and punch list inspection visits.
- j. Review of contractor's "red line" as-builts.
- k. Revision of contract drawings to record drawings from contractor's as-builts.

- l. Services for subsequent phases of construction are not a part of this scope.
3. **Task C – Evaluate Non-Destructive Testing (NDT) Pipe Thickness Measurement Technologies:**
- a. JJG/EDT will employ Jason Consultants International, Inc. to assist in evaluating both internal and external non-destructive testing (NDT) techniques for determining conditions of ferrous piping systems.
 - b. A Technical Memorandum (TM) will be developed on available NDT techniques and a recommendation on appropriate techniques to be used to further evaluate the remainder of the Flint River Transmission Main. TM will also cover the requirements for the cost effective use of the technologies applied to the Flint River Main.
 - c. Based on accepting an NDT technique recommendation from the TM, JJG/EDT will assist the City in developing a scope of work for the actual evaluation of the remainder of the Flint River Transmission Main. Once proposals are received for the evaluation, JJG/EDT will assist the City in review of those proposals. An allowance of \$20,000 has been assigned for this activity.
4. **Task D – Engineering Support Services for Pipe Bursting Demonstration Project:**
- a. Review and edit City's specifications for SDR high-density polyethylene (HDPE) piping and associated fittings for insertion following pipe bursting.
 - b. The pipe bursting demonstration project will be performed on an approximate 500 LF portion of the Flint River main that is upstream from the beginning of the DOT replacement project on Jonesboro Road, which will include the last air/vacuum manhole prior to the South River WRF. The pipe bursting contractor will dig access pits, provide traffic control, provide bypass pumping, replace the existing pipe with 30" HDPE and restore the site. Contractor will reuse the existing air/vacuum valves and manholes but replace the plug valves.
 - c. JJG/EDT will provide engineering services to review the Contractor's scope of work, provide general oversight, and assist with the engineering of the transitions of the 30" HDPE with the existing pipe.

- d. The City will dig test pits down to the top of the existing pipe and provide all technical support of these excavations at either end of the line segment designated for pipe bursting.
- e. Provide engineering support to the City to secure all federal, state and local permits for the construction work. All permit fees will be paid for directly by the City. Permits anticipated are for Georgia DOT ROW encroachment and City building permits.
- f. JJG/EDT will use the cost data from this demonstration project to reevaluate the pipe-bursting alternative and provide a summary report for City review. An allowance of \$10,000 has been assigned for this activity.

Project Assumptions & RFP Clarifications

- 1. City will provide access and personnel to accompany project team members to sites.
- 2. Property surveys will be for limited purpose and will not show utility easements, set backs, property lines or other features necessary for property transactions but will be suitable for inclusion in design documents.
- 3. Real estate efforts will be limited full titles for parcels along the alignment. Services for valuations and acquisition of property and easements can be provided for additional fees. An allowance of \$20,000 is provided for these activities.
- 4. An allowance of \$75,000 is provided for additional exploratory excavations along the existing main.
- 5. Twenty-five (25) sets of bidding documents and one set of reproducibles shall be furnished to the City; additional sets of documents shall be furnished at cost. Supply 10 sets of conformed documents. Ten (10) additional sets of final drawings and specifications to be provided to the City for internal and Code review. All permit application and other permitting fees will be paid by the City or the selected construction contractor.
- 6. Design documents will be submitted to the College Park, East Point Georgia EPD, Georgia DOT, Fulton County (soil and erosion control), City of Atlanta Public Works (Right of Way and Lane Closure Permits), and City of Atlanta Department of Watershed Management.
- 7. Bid pre-qualification will be limited to issuing, reviewing pre-qualification questionnaires, (see previous page) for one bid package. The City will bear costs for advertising for bidder pre-qualification.

8. The City will be responsible for legal, financial, and other such due diligence reviews of bids and bidders. The City will negotiate and administer such contracts as are necessary to complete the work.
9. General overhead expenses such as secretarial support, reproduction services, telephones, pagers, etc. shall be billed at cost under this contract. Geotechnical and testing services required for design shall be provided by JJG/EDT.
10. Provide one license seat of Primavera Expedition and training by Evans Technology for City Project Manager. License will be for one year with standard Primavera on-line support. License will be installed by the City on its server. City must provide access to its server by JJG/EDT for project management.
11. Project schedule will be maintained on Primavera P3 scheduling software. Project correspondence will be maintained on Expedition.
12. City reserves the right to shift scope and remaining monies in engineering services to cover other areas of the pipeline which are determined to be more critical.
13. Services covered elsewhere – NOT IN THIS SCOPE:
 - a. Start-up services will consist of vendor field visit and start-up services as called for in each construction contract. Personnel training shall also be included under each construction contract for those systems and equipment requiring such training.
 - b. Operation and maintenance (O&M) assistance will consist of receiving, reviewing, and assembling into manuals O&M information received from equipment suppliers. Copy quantities of manuals will be as called for in each construction contract.
 - c. City will use the new blanket engineering contract to provide construction services for Phase 1 segment numbers 2 and 3.
 - d. The actual evaluation of the Flint River Transmission Main will be performed under separate contract.

Fees

JJG/EDT will perform the work described in this Scope of Work for an estimated fee of **\$539,047** as described in the attached Fee Summary. Per prior agreement, labor will be discounted by 5% and no mark-up will be taken on expenses on invoices for a net fee of **\$523,522**. Compensation for services will be on the basis of (the 2/26/03 reduced) Standard Hourly Billing Rates allowed under General Services Agreement FC-6710-96D for staff directly involved with the project plus direct expenses. Rates for work completed in calendar year 2004 are escalated 4%. The estimated fee will not be

exceeded without prior approval from the City. Additional services requested by the City will be charged on an hourly basis.

Anticipated period of performance is October 2003 through September 2004.

Summary of allowances noted previously which are included in the above fee:

1.	Real estate title activities	\$20,000
2.	Additional exploratory excavations	\$75,000
3.	Task A emergency repairs design	\$35,000
4.	Task C proposal preparation & review assistance	\$20,000
5.	Task D pipe bursting summary report	\$10,000

Fees will be invoiced monthly on a progress basis and will include a narrative report of work accomplished. JJG/EDT will provide a sample invoice with schedule of values at least 21 days prior to submitting the first invoice. City and JJG/EDT shall modify the sample invoice as needed.

Attachments

Appendix A – Technical Memorandum 2-28-03

Appendix B – Construction Cost Estimate – Replacement vs. Pipe Bursting 5-22-03

Appendix C – Fee Summary 9-4-03

Appendix D – RFP 8-26-03



TECHNICAL MEMORANDUM

DATE: February 28, 2003
PREPARED FOR: City of Atlanta
PREPARED BY: Bill Young, P.E.
SUBJECT: Flint River Force Main Rehabilitation
PROJECT: 2061.703.03

INTRODUCTION AND BACKGROUND

The City of Atlanta (COA) has requested that Jordan, Jones & Goulding, Inc. (JJG) provide recommendations for rehabilitation of the existing Flint River Force Main. This report presents historical and projected capacity requirements, provides force main size recommendations, lists and prioritizes the segments of force main to rehabilitate, and provides cost information for repair or replacement of the various sections of force main.

The existing Flint River Force Main was constructed in 1983 with cement lined 24-inch diameter ductile iron pipe to convey flows from the abandoned Flint River Water Pollution Control Plant (WPCP) to the South River WPCP via the Flint River Stage 2 Pump Station (see Figure 1). The force main is approximately 30,000 linear feet (L.F.) in total length with a High Point Structure approximately 15,500 L.F. from the Flint River Stage 2 Pump Station. The design drawings dated May 1978 and entitled *Three Rivers Water Quality Management Plan, Task No. 8, Flint River Pump Station and Main* show the force main route between the Flint River Stage 2 Pump Station and the High Point Structure. They indicate four (4) high points with air release and vacuum valves (AR&VV). From the High Point Structure to the South River WPCP, the force main has a continual downward slope (varied slope with a min. of 0.10%) with several drop manholes, and during periods of low flow functions more like a gravity sewer than a force main ("gravity portion" of the Flint River Force Main). The *Three Rivers Water Quality Management Plan, Northern Part of Task No. 8, Flint River WPCP Transmission Main* drawings dated July 1983 depict the force main route between the High Point Structure and the South River WPCP with six (6) air release and vacuum valves and six (6) drop manholes (includes the High Point Structure). In 1998, *Flint River Pump Station and Force Main Modifications* were designed by JJG to improve the hydraulics and corrosion resistance of four of these drop manholes. This work performed by WWPS, Inc. involved replacing the drop manholes with air release valve manholes, and connecting existing upstream and downstream piping with 24-inch interior lined ductile iron pipe with 4-inch Vent-O-Mat Series RGX air release valves. WWPS, Inc. also made

temporary concrete repairs to some of the existing manholes after discovering extensive corrosion. Recently, JJG has located and surveyed the Flint River Force Main from the Flint River Stage 2 Pump Station to the High Point Structure ("force main portion" of the Flint River Force Main). This work included documenting the existing easements in junction with Smith Real Estate Services, Inc. in preparation for future force main maintenance and possible replacement. Exterior corrosion testing was also performed by Corrosion Control, Inc. at points along the entire 30,000 L.F. force main length as part of the COA's *Wastewater Pump Stations Force Main Evaluation*. This effort located one (1) air release and vacuum valve along Clark Howell Bypass (formerly Lake Mirror Road) that was not depicted on the 1978 drawings. Also, no other air release and vacuum valves were found between the Flint River Stage 2 Pump Station and the High Point Structure during the recent survey. Approximately eight (8) areas of high exterior corrosion potential were discovered along the entire force main route and are recommended for further investigation in the near future via test pits.

CAPACITY REQUIREMENTS

The COA provided influent average hourly flow data for the Flint River Stage 2 Pump Station for 2001 and 2002. Flows into the station are measured using two parshall flumes with ultrasonic transducers at the influent channels to the station. The following table summarizes the highest of the peak hour flow events over the past two years with dates of occurrence:

Date	Peak Hour Flows (MGD)
March 16, 2001	17.67
June 2, 2001	17.45
September 3, 2002	16.64
September 11, 2002	17.01

FORCE MAIN SIZING

Using the aforementioned survey, drawings and flow data, system head curves were generated for the existing Flint River Force Main. Two scenarios were analyzed to determine the maximum total dynamic head (TDH) requirements this system. They were: 1) Calculate TDH required to pump from the Flint River Stage 2 Pump Station to the High Point Structure; 2) Calculate TDH required to pump from the Flint River Stage 2 Pump Station to the South River WPCP. Due to the grade elevations at the South River WPCP being sufficiently lower than those at the High Point Structure, the resulting TDH requirements calculated to pump to the South River WPCP are less than those calculated to pump to the High Point Structure. Therefore, Scenario 2) was not considered further as the system will pump to the High Point Structure ("force main portion" of Flint River Force Main) and then flow to the South River WPCP via gravity ("gravity portion" of Flint River Force Main). Based on this analysis, Figure 2 provides the system head and pump curves for the existing Flint River Stage 2 Pump Station and 24-inch force main to the High Point Structure. With the largest pump out of service and assuming a Hazen-Williams Coefficient of Roughness of 100 ($C=100$), the station has a calculated capacity of approximately

11.5 MGD (8,000 GPM) at 137 feet TDH. With all of the largest pumps in operation (no spare), the station has a calculated capacity of 12.6 MGD (8,750 GPM) at 150 feet TDH. According to our analysis and based on past experiences, the Flint River Stage 2 Pump Station, with all the largest pumps operating, will still need to overflow into the approximately four (4) million gallon on-site storage area in order to overcome the deficit in station capacity during peak flow events. Furthermore, even if the existing pumps were replaced with larger capacity pumps with a maximum recommended force main velocity of 8.0 feet per second (FPS), the system would still only convey approximately 17.7 MGD (12,300 GPM) at 246 feet TDH, providing no extra capacity for long-term growth in this basin. Figure 3 provides the system head and pump curves for the existing Flint River Stage 2 Pump Station with a new 30-inch force main to the High Point Structure. With the largest pump out of service and assuming a Hazen-Williams Coefficient of Roughness of 100 ($C=100$), the station has a calculated capacity of approximately 17.0 MGD (11,800 GPM) at 114 feet TDH. Based on the existing pump arrangement and historical flow data for 2001 and 2002, a 30-inch force main does not provide the opportunity for additional capacity growth without overflowing to the on-site storage area. However, if the existing pumps are replaced with larger submersible pumps operating at a maximum force main velocity of 8.0 FPS, a 30-inch force main is capable of conveying approximately 27.5 MGD (19,100 GPM) at 218 feet TDH for this system. Therefore, a 30-inch force main to the High Point Structure will accommodate capacity growth for the station using larger capacity pumps while also decreasing or eliminating the station's dependency on the existing overflow storage area during peak flow events.

For the "gravity portion" of the Flint River Force Main from the High Point Structure to the South River WPCP, typical slopes in the existing 24-inch pipeline vary from approximately 0.1% to 2.0%. The table below provides approximate maximum capacities that can be achieved in 24-inch, 30-inch, and 36-inch pipes at these slopes without surcharging the pipeline.

Pipe Diameter (inches)	Maximum Capacity w/o Surcharge @ 0.1% Slope (MGD)	Maximum Capacity w/o Surcharge @ 2.0% Slope (MGD)
24	4.6	20.7
30	8.4	37.6
36	13.7	61.1

As shown in the above table, a 24-inch force main at 2% slope appears to be adequate to convey existing peak flows from the High Point Structure to the South River WPCP without surcharging the High Point Structure. As surcharging occurs upstream of the flatter portions of the pipeline, pressure (static head) will increase and push more flow through these sections of pipe. However, a 24-inch force main will not accommodate very much capacity growth for this system before it begins surcharging in areas with a 2.0% slope. Therefore, it is recommended that the "gravity portion" of the Flint River Force Main be increased to 30-inch in order to accommodate future peak flow events. It is also very important that no connections be permitted to this "gravity portion" of the force main as peak flows will surcharge portions of the pipeline with flat slopes which could lead to flooding or spills upstream of these connections.

RECOMMENDATIONS FOR FORCE MAIN REHABILITATION

JJG considered various methods for rehabilitation of the Flint River Force Main including trenchless technologies such as sliplining and cured-in-place pipe lining, same trench upgrade, and replacement with a parallel force main. Trenchless technologies restore the structural integrity of the pipeline with limited disturbance to the surrounding environment. However, these methods also reduce the inside diameter of the existing pipe and require frequent access points by way of manholes for insertion of the liner. As the existing force main is already flow capacity limited and does not have very many access points available for insertion of these liners, it is not recommended that these methods be used. Same trench upgrade by installing a new pipeline in the same trench above the existing pipe is not recommended due to structural considerations such as collapse of the existing pipe from extensive corrosion. Same trench replacement of the existing pipe is also not recommended due to the added expense of maintaining a permanent bypass while the new force main is being installed. Therefore, to reduce the expense of bypass pumping and provide a force main that will meet future capacity requirements, JJG recommends that the existing force main be replaced with a new parallel pipeline.

As a one time replacement of the entire 30,000 L.F. of 24-inch force main length would be extremely costly, an analysis was performed to recommend and prioritize the sections of force main to replace. This was performed by reviewing the force main profiles in the 1978 and 1983 drawings to estimate lengths of pipe where the greatest potential for internal corrosion is expected to occur due to exposure of hydrogen sulfide gases. These potential areas are expected to occur at the various high points along the force main route and along the segment from the High Point Structure to the South River WPCP ("gravity portion" of the Flint River Force Main). At these locations, a gas/liquid interface will periodically occur inside the pipeline. This may result in the accumulation of hydrogen sulfide gases with the resulting formation of sulfuric acid along the interior crown of the ductile iron pipe force main. Over time, the acid can corrode the exposed sections of ductile iron resulting in structural failure or collapse of the pipe, as has occurred at locations in the past. Therefore, it is recommended that any replacement of "gravity portions" and high points of the Flint River Force Main be performed using ductile iron pipe with a polyethylene or epoxy interior lining to protect the new pipeline from internal corrosion. To protect the exterior of the new ductile iron pipe from corrosion due to a high potential for induced currents from the Atlanta Hartsfield International Airport radar system, it is also recommended that the replaced pipe be wrapped with polyethylene encasement during installation.

The following table lists the sections of force main with probable internal corrosion that are recommended for replacement, provides the lengths of line recommended for replacement with 30-inch pipe, and provides cost estimates for construction, easement acquisition, engineering and construction services (2003 dollars). The segments of pipeline are listed in the table from highest priority (Item No. 1) to lowest priority (Item No. 4) based on the likelihood of corrosion and

safety concerns (such as potential collapse of pipe sections that are under roads or railways). Construction cost estimates assume that the new force main portions will parallel and connect back into the existing force main. Cost estimates also assume that the existing storage area will be utilized at the abandoned Flint River WPCP while making connections to the existing pipeline so that bypass pumping will be minimized. The budget cost indicated for Item No. 3 does not include replacing the 30-inch force main crossing of South River as this work was recently performed in conjunction with the Georgia Department of Transportation (GADOT) replacement of the bridge at Jonesboro Road. The cost for Item No. 3 does include easement acquisitions which will be necessary to parallel Jonesboro Road as it is under the jurisdiction of the GADOT. Item No. 3 costs also include the installation of a wastewater sampling station equal to the ISCO 3710FR (single-bottle sampler in a fiberglass refrigerator) at a force main manhole on the South River WPCP property. Item No. 4 costs consist of replacing portions of the force main (including AR&VV manholes) adjacent to the six high points (includes high point at the Flint River Stage 2 Pump Station) between the Flint River Stage 2 Pump Station and Henry Ford Avenue. Item No. 4 costs do not incorporate replacement of the entire "force main portion" of the pipeline. The total cost for Item No. 4 contains easement acquisition costs needed to install new pipe and an air release valve at a high point adjacent to Tradeport Boulevard. Item No. 4 costs also include a \$1 Million test pit-repair allowance for exploratory work and emergency repairs along the "force main portion" of the pipeline. All pipe costs are for ductile iron encased in polyethylene with an interior polyethylene or epoxy lining as recommended above.

Item No.	From	To	Length (L.F.)	Total Cost
1	West Side of Central Avenue, CSX Railroad and Henry Ford Avenue	Browns Mill Road / Humphries Drive Intersection	8,100	\$5,561,000
2	Browns Mill Road / Humphries Drive Intersection	School Drive / Jonesboro Road Intersection	3,000	\$1,867,000
3	School Drive / Jonesboro Road Intersection	South River WPCP	4,600	\$3,228,000
4	Flint River Stage 2 Pump Station	West Side of Central Avenue, CSX Railroad and Henry Ford Avenue (at 6 high points)	3,000	\$3,527,000
Total			18,700	\$14,183,000

As shown in the above table, the "gravity portion" of pipeline between the High Point Structure and the South River WPCP (Item Nos. 1 – 3) has the greatest expected internal corrosion and highest safety concern since the majority of this section of force main is buried beneath highly traveled public roads such as Browns Mill Road, Humphries Drive, School Drive, and Jonesboro Road. The section of force main immediately upstream of the High Point Structure (part of Item No. 1) is also recommended for replacement as internal exposure to corrosive gases may occur and since the pipe is located beneath the busy Central Avenue/Browns Mill Road intersection,

Henry Ford Avenue, and CSX Railroad tracks. Other areas of anticipated corrosion occur at the various high points along the "force main portion" of the pipeline where AR&VVs may exist and corrosive gases may accumulate (Item No. 4). Many of these sections of pipe upstream and downstream of the AR&VVs (total of 5) are not anticipated to be as great a safety concern as other segments of the force main because they do not appear to be located under roads or railways. The area immediately downstream of the Flint River Stage 2 Pump Station is also locally a high point where corrosive gases may accumulate (part of Item No. 4). Approximately 40 L.F. of 24-inch force main was recently replaced in this area when a leak was discovered in 2001. As this segment of force main is located primarily on City property and in a less frequently traveled area, there is less safety concern regarding the collapse of this portion of pipeline. If all of the above recommended improvements (Item Nos. 1 – 4) are made to the existing Flint River Force Main, the Flint River Stage 2 Pump Station capacity would increase to approximately 12.4 MGD (8,600 GPM) at 135 feet TDH (with largest pump out of service and C=100) as shown in Figure 4. If a one time replacement of the entire 30,000 L.F. of Flint River Force Main becomes financially feasible, it will have a total cost of approximately \$20.4 Million.

SUMMARY OF RECOMMENDATIONS

Recommendations for replacement of portions of the Flint River Force Main are based on the following three major criteria:

- 1) Probable internal corrosion.
- 2) Safety concerns (where under roads and railway).
- 3) Projected capacity requirements.

The force main is comprised of the following two major sections:

- 1) "Force main portion" between the Flint River Stage 2 Pump Station and the High Point Structure.
- 2) "Gravity portion" between the High Point Structure and the South River WPCP.

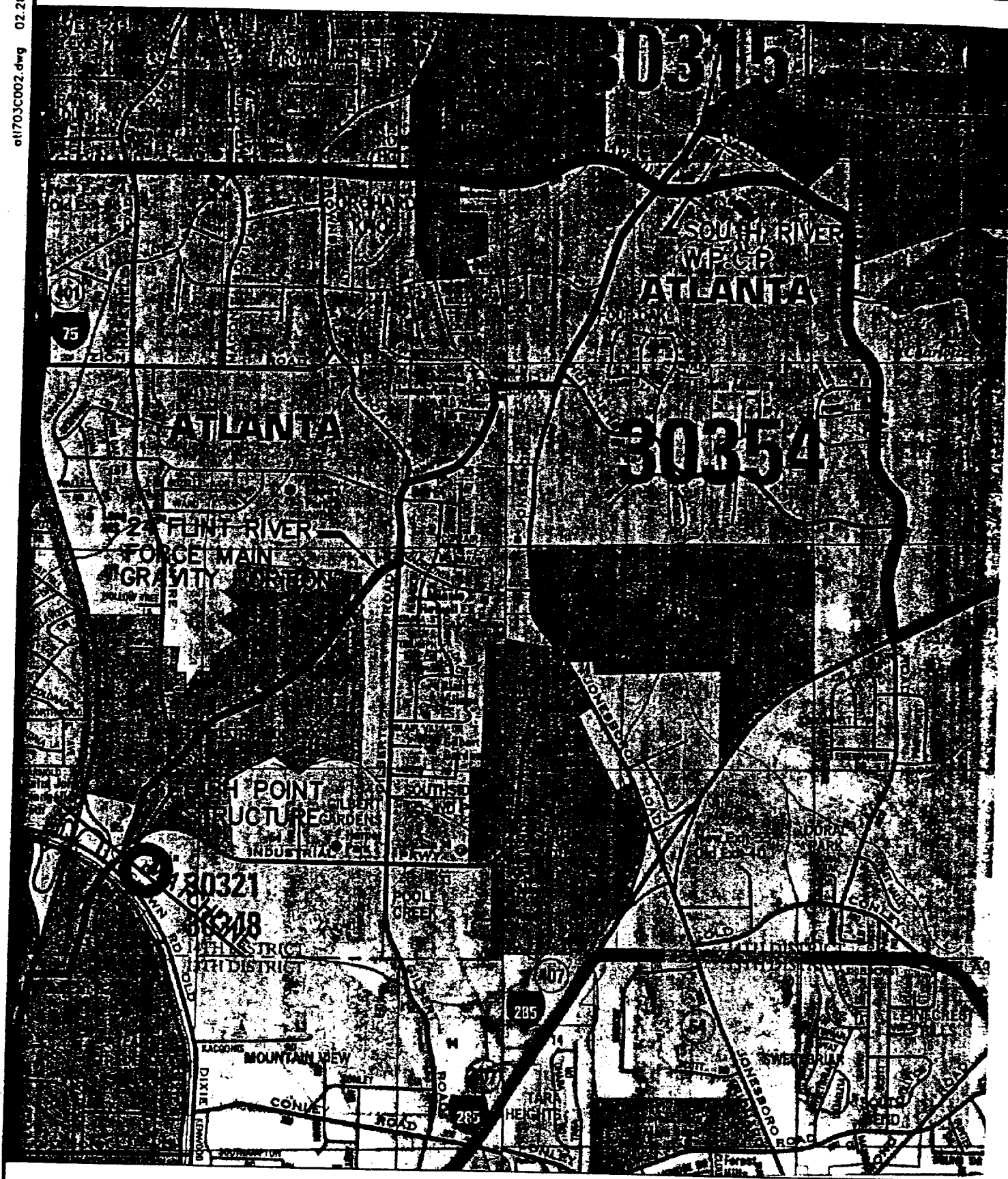
Based on projected capacity requirements alone, it is recommended that the "force main portion" and the "gravity portion" of the Flint River Force Main be replaced with 30-inch ductile iron pipe. As a one time replacement of the entire 30,000 linear feet of 24-inch force main is too costly, it is recommended that the COA replace portions of the pipeline where extensive corrosion is anticipated and possible collapse of the pipe presents the greatest of safety hazards. Therefore, the entire "gravity portion" of the force main (15,000 L.F.) and a segment of the "force main portion" between the west side of Central Avenue to the High Point Structure (700 L.F.) should be replaced first with a 30-inch pipeline estimated at approximately \$10.7 Million. Subsequent areas for test pits, emergency repair, and replacement with 30-inch pipe along the "force main portion" include at the approximately five (5) high points with AR&VVs (2,000 L.F.) and immediately downstream of the Flint River Stage 2 Pump Station (1,000 L.F.) at a cost of approximately \$3.5 Million. Although the integrity of the pipeline and safety of the system should be increased substantially by these improvements, it is important to note that these upgrades do very little to increase the capacity of the system which will become approximately 12.4 MGD with the largest pump out of service. Further increases in capacity will require replacement of the remaining portions of the 24-inch force main with 30-inch ductile iron pipe

Technical Memorandum

February 28, 2003

Page 7

and replacement of the pumps at the Flint River Stage 2 Pump Station with larger horsepower submersible pumps.



BYOUNG



**JORDAN
JONES &
GOULDING**

CITY OF ATLANTA
FLINT RIVER FORCE MAIN REPLACEMENT

FIGURE 1
LOCATION MAP

DATE : JAN. 2003

SCALE : N.T.S.

JOB NO.: 2061.703

Figure 2

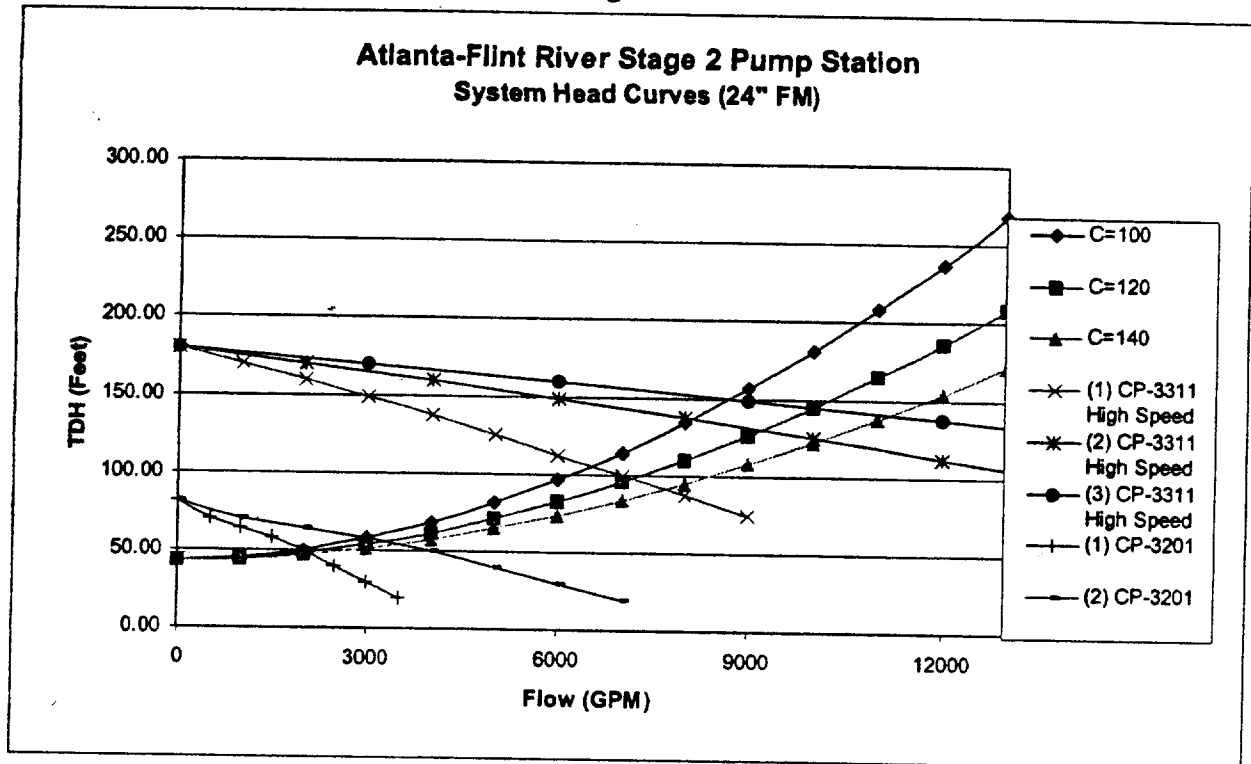


Figure 3

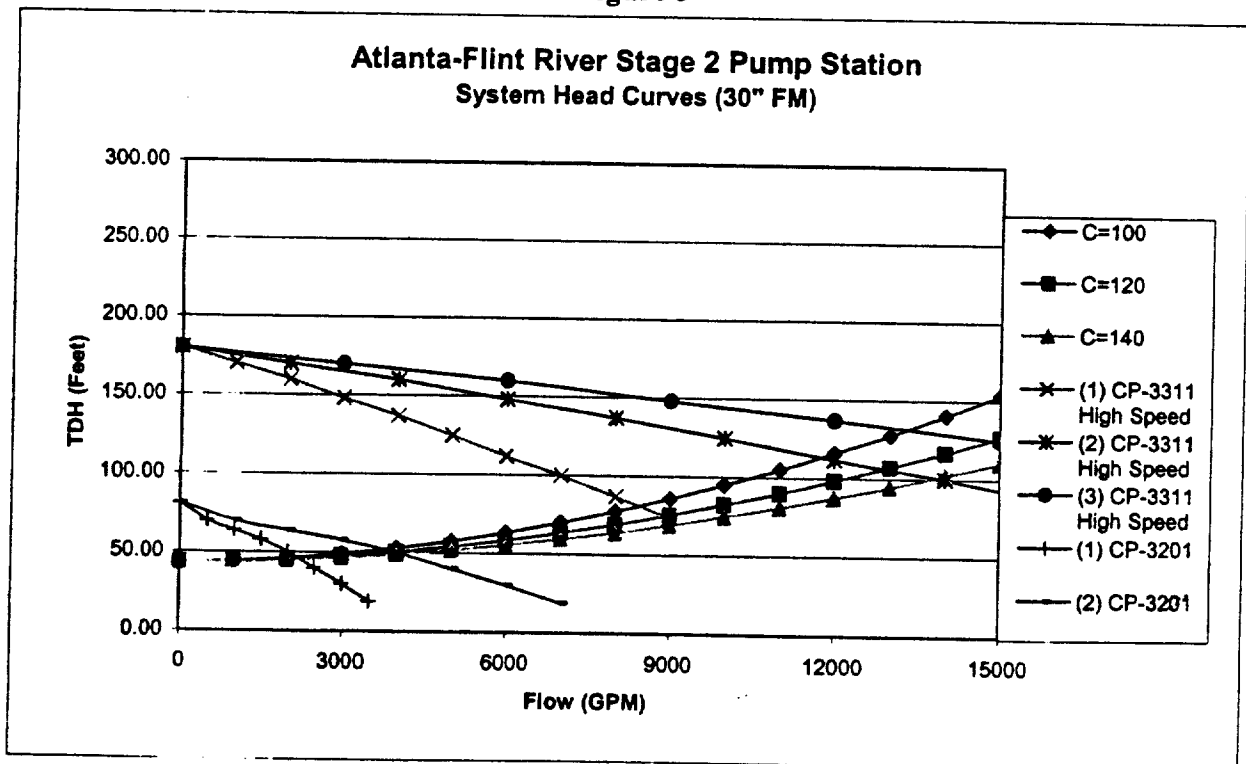
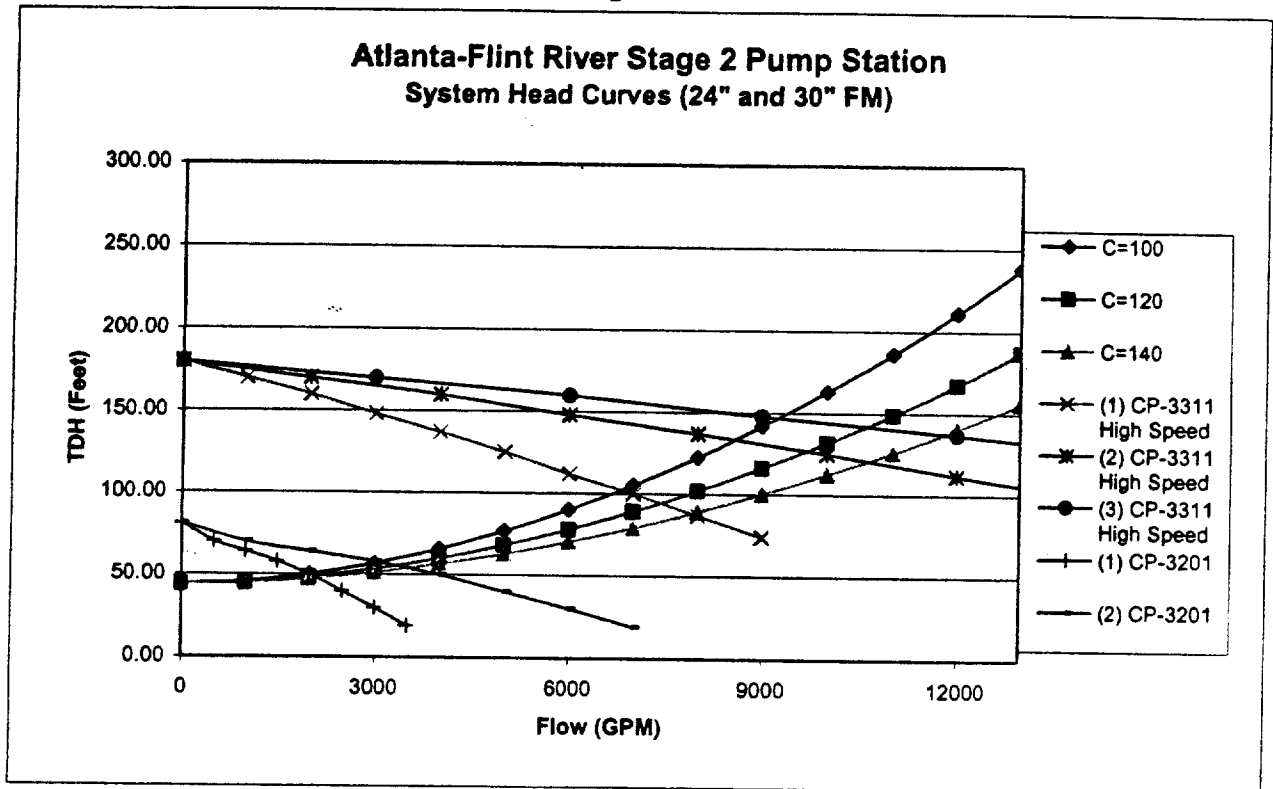


Figure 4



FLINT RIVER FORCE MAIN
CONSTRUCTION COST ESTIMATE COMPARISON
FORCE MAIN REPLACEMENT VS. PIPE BURST
DATE: 05/22/03

FORCE MAIN REPLACEMENT

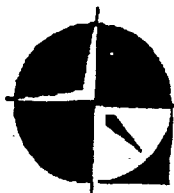
No.	Description	Quantity	Unit Cost	Total
1	Construction Exits	8 EA	\$750.00	\$6,000.00
2	Sedimentation Barrier	12,000 LF	\$2.00	\$24,000.00
3	Straw Bale Barrier	750 LF	\$2.00	\$1,500.00
4	Rock Check Dams	20 EA	\$250.00	\$5,000.00
5	Rip Rap	120 TN	\$35.00	\$4,200.00
6	Curb Inlet Filters	100 EA	\$100.00	\$10,000.00
7	Force Main Grassing	1,200 LF	\$1.00	\$1,200.00
8	30-inch Ductile Iron Pipe Force Main	12,000 LF	\$250.00	\$3,000,000.00
9	30-inch Ductile Iron Interior Lining Extra Cost	12,000 LF	\$30.00	\$360,000.00
10	30-inch Ductile Iron Fittings	12.0 TN	\$7,000.00	\$84,000.00
11	30-inch Ductile Iron Restrained Joint Pipe Extra Cost	4,000 LF	\$60.00	\$240,000.00
12	Polywrap 30-inch DIP	12,000 LF	\$2.00	\$24,000.00
13	Concrete Thrust Blocking	150 CY	\$100.00	\$15,000.00
14	Air Valve Manholes	8 EA	\$12,500.00	\$100,000.00
15	Connection to Existing 24-inch Force Main	2 EA	\$4,000.00	\$8,000.00
16	Trench Stabilization	350 CY	\$25.00	\$8,750.00
17	42-inch Steel Casing	570 LF	\$800.00	\$456,000.00
18	Type II	700 SY	\$25.00	\$17,500.00
19	Type IV	7,000 SY	\$20.00	\$140,000.00
20	Graded Aggregate	350 SY	\$15.00	\$5,250.00
21	Asphalt Milling	35,000 SY	\$3.00	\$105,000.00
22	2-inch Resurfacing	35,000 SY	\$5.00	\$175,000.00
23	Trench Rock	1,500 CY	\$45.00	\$67,500.00
24	Force Main	12,000 LF	\$1.00	\$12,000.00
25	Fill Existing 24-inch Force Main w/ Grout	12,000 LF	\$10.00	\$120,000.00
26	Soils and Concrete Testing	1 LS	\$17,500.00	\$17,500.00
27	Construction Surveying	1 LS	\$20,000.00	\$20,000.00
28	Blasting Monitoring	1 LS	\$15,000.00	\$15,000.00
29	Landscaping	1 LS	\$35,000.00	\$35,000.00
30	As-Built Drawings	1 LS	\$15,000.00	\$15,000.00
31	Bypass Pumping	8 WK	\$30,000.00	\$240,000.00
32	Traffic Control	1 LS	\$50,000.00	\$50,000.00
33	Railroad Permit Application Fees	1 LS	\$30,000.00	\$30,000.00
	Contingency - 25%			\$1,353,100.00
	Estimated Construction Cost			\$6,766,000.00
	Estimated Construction Cost per Linear Foot			\$564
	Estimated Survey and Design Cost	9%		\$608,940.00
	Estimated Easement Cost (20' Perm + 20' Temp.)	800 LF	\$60.00	\$48,000.00
	Estimated Construction Services (Inspection and CAE)	3%		\$202,980.00
	Total Cost			\$7,625,920.00
	Total Cost per Linear Foot			\$635

Appendix B

FLINT RIVER FORCE MAIN CONSTRUCTION COST ESTIMATE COMPARISON FORCE MAIN REPLACEMENT VS. PIPE BURST DATE: 05/22/03

PIPE BURST

No.	Description	Quantity	Unit Cost	Total
1	Construction Exits	4	EA	\$750.00
2	Sedimentation Barrier	4,500	LF	\$2.00
3	Straw Bale Barrier	250	LF	\$2.00
4	Rock Check Dams	5	EA	\$250.00
5	Rip Rap	40	TN	\$35.00
6	Curb Inlet Filters	45	EA	\$100.00
7	Force Main Grassing	300	LF	\$1.00
8	30-inch Ductile Iron Pipe Force Main	900	LF	\$250.00
9	30-inch Ductile Iron Interior Lining Extra Cost	900	LF	\$30.00
10	30-inch Ductile Iron Fittings	9.0	TN	\$7,000.00
11	30-inch Ductile Iron Restrained Joint Pipe Extra Cost	300	LF	\$60.00
12	Polywrap 30-inch DIP	300	LF	\$2.00
13	Concrete Thrust Blocking	50	CY	\$100.00
14	Air Valve Manholes	8	EA	\$12,500.00
15	Connection to Existing 24-inch Force Main	2	EA	\$4,000.00
16	Trench Stabilization	50	CY	\$25.00
17	42-inch Steel Casing	570	LF	\$800.00
18	30" HDPE (includes entry/exit pits)	11,100	LF	\$300.00
19	Type II	250	SY	\$25.00
20	Type IV	2,500	SY	\$20.00
21	Graded Aggregate	100	SY	\$15.00
22	Asphalt Milling	10,000	SY	\$3.00
23	2-inch Resurfacing	10,000	SY	\$5.00
24	Trench Rock	100	CY	\$45.00
25	Force Main	12,000	LF	\$1.00
26	Fill Existing 24-inch Force Main w/ Grout	900	LF	\$10.00
27	Soils and Concrete Testing	1	LS	\$5,000.00
28	Construction Surveying	1	LS	\$5,000.00
29	Blasting Monitoring	1	LS	\$2,500.00
30	Landscaping	1	LS	\$5,000.00
31	As-Built Drawings	1	LS	\$15,000.00
32	Bypass Pumping	50	WK	\$30,000.00
33	Traffic Control	1	LS	\$15,000.00
34	Railroad Permit Application Fees	1	LS	\$30,000.00
	Contingency - 25%			\$1,498,640.00
	Estimated Construction Cost			\$7,493,000.00
	Estimated Construction Cost per Linear Foot			\$624
	Estimated Survey and Design Cost	9%		\$608,940.00
	Estimated Easement Cost (20' Perm. + 20' Temp.)	0	LF	\$60.00
	Estimated Construction Services (Inspection and CAE)	3%		\$202,980.00
	Total Cost			\$8,304,920.00
	Total Cost per Linear Foot			\$692

**SOUTHEAST
PIPE SURVEY**

Trenchless Repair Specialists

Friday, May 09, 2003

Bill Young
Jordan Jones & Gouldin, Inc.
6801 Governors Lake Parkway
Norcross, GA 30071

Budget Quotation**Project:** Flint River Force Main**Dear Bill:****Scope of Work:**

Southeast Pipe Survey, Inc. proposes to provide labor, materials, tools, equipment, transportation and supervision to pipe burst approximately 15,000 ft. of 24" existing ductile iron sewer line and replace with 30" ductile iron pipe size, (DIPS), PE3408 per ASTM F-714 HDPE pipe. This will include excavation of entry and exit pits, and mobilization to and from job site. If required The City of Atlanta to provide a DOT Permit for traffic control.

By the use of pipe bursting the following items will not be required, or their quantities will be less.

- 1: Amount of street trenching and pavement
- 2: Landscaping
- 3: Concrete thrust blocking
- 4: Polywrapping of pipe
- 5: Cathodic protection of pipe
- 7: Construction entrances
- 8: Number of fittings required
- 9: Traffic control

Estimated Cost of Pipe Bursting 24" ductile iron pipe to 30" DIPS HDPE pipe: **\$ 300.00 / ft.**

Demo Pipe Burst:

Southeast Pipe Survey and TT Technologies would like to provide a demo section of approximately 300 ft. to demonstrate the speed and capability of this type of application on this large diameter (24") ductile iron pipe. This would be done at a reduced cost to the City for evaluation purposes of equipment and Southeast Pipe Survey.

Estimated Cost of 300 ft. Demo:**\$ 82,000.00**

City of Atlanta, J&G, Equipment Manufacturer (TT Technologies), and Southeast Pipe Survey will base the proposed demo on site selection, specifications, and approval from all parties.

Thank you for allowing Southeast Pipe Survey this opportunity to help solve your rehabilitation requirements.

Sincerely,

Larry French
Larry French
Sales

Flint River Transmission Main Phase I Replacement - Design, Construction Admin, NDT Evaluation & Pipe Bursting Support Services
Jordan, Jones & Goulding/Engineering Design Technologies

Fee Summary

Date:

09/04/03

Appendix C

Task	Task Description	Manhours	Hourly Rate, \$	Total, \$	Task Subtotal, \$	Discounted Task Subtotal, \$
A	Design - Phase 1 Replacement	1,947	(A)		354,720	348,172
	Engineer 8	180	163	29,340		
	Engineer 7	187	144	26,928		
	Engineer 5	47	100	4,700		
	Engineer 4	511	85	43,435		
	Scientist 5	80	83	6,640		
	Designer 3	350	81	28,350		
	Surveyor 6	4	114	456		
	Surveyor 5	60	77	4,620		
	Surveyor 4	222	59	13,098		
	Surveyor 2	126	37	4,662		
	Secretary	80	48	3,840		
B	Construction Services - Partial Phase 1 Replacement	514	(B)	183,751	56,030	53,718
	Engineer 8	60	176	10,578		
	Engineer 7	14	156	2,181		
	Engineer 5	100	92	9,194		
	Sr. Resident Inspector	140	82	11,480		
	Engineer 4	56	88	4,906		
	Designer 3	24	64	1,532		
	Technician 2	120	53	6,360		
	Expenses			9,800		
	Evaluate NDT Pipe Thickness Measure Technologies	420	(A)		72,220	69,949
	Engineer 8	52	163	8,476		
	Engineer 7	96	144	13,824		
C	Engineering Support Services - Pipe Bursting	426	(B)		66,077	63,683
	Engineer 8	44	176	7,757		
	Engineer 7	102	156	15,887		
	Engineer 5	40	92	3,680		
	Sr. Resident Inspector	40	82	3,280		
	Engineer 4	168	92	15,445		
	Designer 3	12	64	768		
	Technician 2	20	53	1,060		
	Expenses			8,200		
	TOTAL	2,881		\$ 539,047	\$	523,522

Note: Contract rates rounded to nearest dollar for estimate purposes

(A) Hourly rates are approved JV rates

(B) Same as (A) escalated 4.0% for CY 2004

Appendix D



CITY OF ATLANTA

SHIRLEY FRANKLIN
MAYOR

TECHNICAL SERVICES
2440 BOLTON ROAD, N.W.
ATLANTA, GEORGIA 30318
404 - 350-4950
FAX: 404 - 350-4951

DEPARTMENT OF WATERSHED
MANAGEMENT
JACK RAVAN
COMMISSIONER

August 26, 2003

Neal Stubblefield, P.E.
Jordan Jones and Goulding
6801 Governors Lake Parkway
Norcross, GA 30071

Reference: Flint River Transmission Main Phase I Replacement

Dear Neal,

Please furnish an itemized proposal for the enclosed scope of work to be performed under your existing JJ&G/EDT blanket contract FC 6622-96. The scope of work involves the following elements.

- A. Design services for 11,800 feet of 24" ductile iron pipe from upstream of the Central Ave Railroad to the first downstream manhole on Jonesboro Road.
- B. Construction Services for the first replacement section to be performed under the blanket construction contract for force mains.
- C. Evaluate nondestructive pipe thickness measuring technologies.
- D. Engineering services to support a pipe bursting demonstration project.

The quote should include the 5% reduction in labor rates and 0% mark-up on subcontractors.

If you have any questions, please give me a call.

Sincerely,

John Reinhard, P.E.

cc. Lancelot Clark, P.E.
File E126FT

Technical Specifications

Flint River Replacement Phase I Engineering and Evaluation Services

A. General

1. Provide general and specialty engineering services to perform the following tasks.
 - a. Design services for 11,800 feet of 24" ductile iron pipe from upstream of the Central Ave Railroad to the first downstream manhole on Jonesboro Road.
 - b. Construction Services for the first replacement section to be performed under the blanket construction contract for force main. (Rockdale Piping or Roland Pugh).
 - c. Evaluate nondestructive pipe thickness measuring technologies.
 - d. Engineering services to support a pipe bursting demonstration project.
2. Work to be performed as a task order under the existing JJ&G/EDT blanket contract FC-6710-96D.
3. Work includes a hosting a kick-off meeting, weekly progress teleconferences, and review meetings.
4. Provide a sample invoice with schedule of values at least 21 days prior to submitting the first invoice. City and consultant shall modify the sample invoice as needed.

B. Design Service for Phase I

1. Provide preliminary and detailed engineering services to replace the 24" ductile iron pipe from the west side of the Central Ave CSX railroad tract (STA 156) to just past the first Jonesboro MH (STA 38) with a 30" lined ductile iron pipe. Work also involves designing an approximate 20' long replacement section downstream of STA 8 where a temporary concrete collar was added to repair corrosion damage.
2. The Phase I replacement project will be broken up into smaller tasks using a construction contractor established on a blanket contract. Consultant shall assume 3 separate tasks to price his services. The Consultant will work closely with the construction contractor to establish the scope of each phase and fast-track design and construction of the first phase. The remaining tasks will be designed but the City will use the future blanket-engineering contract to perform the construction services.

3. Include an allowance of 10% to handle design services for emergency repairs determined from the pipeline evaluation phase. City will secure additional funding or contract the work out to a different party if emergencies exceed this amount.
4. Prepare a preliminary and final cost estimates.
5. Prepare 30%, 90% and 100% design packages.
6. City reserves the right to shift scope and remaining monies in engineering services to cover other areas of the pipeline which are determined to be more critical.

C. Construction Services for Phase I

1. Construction services shall only be for the first task of Phase I. This requirement is due to the early expiration of the current blanket contract.
2. Work involves hosting kick-off meeting, submittal review, attend construction progress meetings, and weekly site inspections. City will provide an engineer to inspect the work on a daily basis.
3. Provide engineering services to prepare materials and secure all federal, state and local permits for the construction work.
4. City will use the new blanket engineering contract to provide construction services for task 2 and 3.

D. Evaluation Services for Phase I

1. Consultant shall employ a specialty pipeline consultant knowledgeable on all types of non-destructive methods to determine pipeline condition.
2. Consultant shall provide a technical memorandum on the available technologies and provide a recommendation on which technology.
3. If a technology is recommended and accepted by the City, the Contractor shall assist the City in developing the scope of the RFP and evaluate the proposal.
4. The actual evaluation will be performed under separate contract.

E. Pipe Bursting Demonstration for Phase I

1. City is interested in doing a pipe bursting demonstration on a portion of the Flint River line that is upstream from the beginning of the DOT replacement project, which will include the last 2 air/vacuum manholes.

2. Pipe bursting contractor to dig access pits, provide traffic control, provide bypass pumping, replace the existing pipe with 30" HDPE and restore the site.
3. Consultant will provide engineering services to review the Contractor's scope of work, provide general oversight, and assist with the engineering of the transitions of the 30" HDPE with the existing pipe.
4. Provide engineering services to prepare materials and secure all federal, state and local permits for the construction work.
5. Contractor will reuse the two existing air/vacuum valves and manholes but replace the plug valves.
6. Consultant will use the cost data from this demonstration project to reevaluate the pipe-bursting alternative.
7. Provide a summary report for City review.

++++++End of Section++++++

TRANSMITTAL FORM FOR LEGISLATION

TO: MAYOR'S OFFICE

ATTN: GREG PRIGDEON

Chief Procurement Officer's Signature:

Adam L. Smith
Adam L. Smith

Originating Department: Department of Watershed Management

Contact Person: Cynthia E. Zachery (X6057)

Committee(s) of Purview: City Utilities Committee

Council Deadline: November 10, 2003

Committee Meeting Date(s): November 25, 2003

Full Council Date: December 1, 2003

CAPTION

A RESOLUTION AUTHORIZING THE MAYOR OR DESIGNEE TO ISSUE A NOTICE TO PROCEED WITH JORDAN, JONES & GOULDING, INC./ENGINEERING DESIGN TECHNOLOGIES, INC., A JOINT VENTURE, FOR FC-6710-96D, ANNUAL CONTRACT FOR ARCHITECTURAL AND ENGINEERING SERVICES FOR THE FLINT RIVER TRANSMISSION MAIN REPLACEMENT - PHASE I ON BEHALF OF THE DEPARTMENT OF WATERSHED MANAGEMENT IN AN AMOUNT NOT TO EXCEED FIVE HUNDRED TWENTY-THREE THOUSAND FIVE HUNDRED TWENTY-TWO DOLLARS (\$523,522.00). ALL CONTRACTED WORK SHALL BE CHARGED TO AND PAID FROM THE FOLLOWING FUND ACCOUNT AND CENTER NUMBER: 2J26 524001 Q34118079999.

BACKGROUND

TO SECURE ENGINEERING SERVICES FOR THE FLINT RIVER TRANSMISSION MAIN REPLACEMENT - PHASE I TO PROVIDE DESIGN, CONSTRUCTION ADMINISTRATION SERVICES, EVALUATION OF NON-DESTRUCTIVE TESTING METHODOLOGIES, AND ENGINEERING SERVICES TO SUPPORT A PIPE BURSTING DEMONSTRATION PROJECT FOR A PORTION OF THE FLINT RIVER TRANSMISSION MAIN REPLACEMENT.

FINANCIAL IMPACT (if any): \$523,522.00.

Mayor's Staff Only

Received by Mayor's Office:

11.12.03 JS
(date)

Reviewed by:

JS
(initials) (date)

Submitted to Council:

(date)

Action by Committee: ☐ Approved ☐ Adversed ☐ Held ☐ Amended

☐ Substitute ☐ Referred ☐ Other